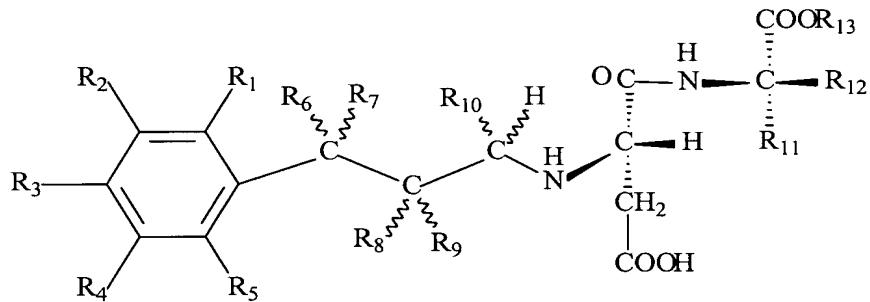


IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Previously Presented): An N-alkylaspartyl dipeptide ester compound, and salts thereof, represented by the formula (1):



wherein R₁, R₂, R₃, R₄ and R₅ are independent from each other, selected from the group consisting of a hydrogen atom, a hydroxyl group, an alkoxy group having 1 to 3 carbon atoms, an alkyl group having 1 to 3 carbon atoms and a hydroxy alkyloxy group having two or three carbon atoms, and R₁ and R₂, or R₂ and R₃, optionally, form a methylene dioxy group, and R₄ and R₅, and R₁ or R₃ which do not form the methylene dioxy group are defined as above;

R₆, R₇, R₈, R₉ and R₁₀ are independent from each other, a hydrogen atom or an alkyl group with 1 to 3 carbon atoms; and optionally, two of R₆, R₇, R₈, R₉ and R₁₀ may combine to form an alkylene group with 1 to 5 carbon atoms, and R₆, R₇, R₈, R₉ and R₁₀ which do not

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form the alkylene group with 1 to 5 carbon atoms are defined as above;

R_{11} is selected from the group consisting of a hydrogen atom, a benzyl group, a p-hydroxy benzyl group, a cyclohexyl methyl group, a phenyl group, a cyclohexyl group, a phenyl ethyl group and a cyclohexyl ethyl group;

R_{12} is selected from the group consisting of a hydrogen atom and an alkyl group with 1 to 3 carbon atoms; and

R_{13} is selected from the group consisting of alkyl groups with 1 to 4 carbon atoms; with the proviso that the following are excluded:

where R_6 , R_7 , R_8 , R_9 and R_{10} are hydrogen atoms at the same time,

where R_6 is a methyl group, R_1 , R_2 , R_3 , R_4 , R_5 , R_7 , R_8 , R_9 , R_{10} and R_{12} are a hydrogen atom at the same time and R_{11} is a benzyl group or a p-hydroxy benzyl group, at the same time; and

where R_2 or R_4 is a methoxy group, R_3 is a hydroxyl group, R_{10} is a methyl group, R_1 , R_4 or R_2 , R_5 , R_6 , R_7 , R_8 and R_9 are hydrogen atoms at the same time, and R_{11} is a benzyl group or a p-hydroxy benzyl group.

Claim 2 (Previously Presented): The compound as defined in claim 1, wherein R_3 is a methoxy group, R_1 , R_2 , R_3 , R_4 , R_5 , R_7 , R_8 , R_9 , R_{10} and R_{12} are hydrogen atoms, R_6 and R_{13} are methyl groups and R_{11} is a benzyl group.

Claim 3 (Original): The compound as defined in claim 1, wherein R_2 is a hydroxyl group, R_1 , R_3 , R_4 , R_5 , R_7 , R_8 , R_9 , R_{10} and R_{12} are hydrogen atoms, R_6 and R_{13} are methyl

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groups, and R₁₁ is a benzyl group.

Claim 4 (Previously Presented): The compound as defined in claim 1, wherein R₂ is a methoxy group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a benzyl group.

Claim 5 (Original): The compound as defined in claim 1, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a benzyl group.

Claim 6 (Currently Amended): The compound as defined in claim 1, wherein R₂ is a methoxyl group, R₃ is a hydroxy group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₃ R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a p-hydroxy benzyl group.

Claim 7 (Currently Amended): The compound as defined in claim 1, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₃ R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a cyclohexyl methyl group.

Claim 8 (Original): The compound as defined in claim 1, wherein R₃ is a methoxy group, R₁, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 9 (Original): The compound as defined in claim 1, wherein R₃ is a hydroxyl group, R₁, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇, and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 10 (Original): The compound as defined in claim 1, wherein R₂ is a methoxy group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 11 (Original): The compound as defined in claim 1, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 12 (Original): The compound as defined in claim 1, wherein R₂ is a methyl group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 13 (Original): The compound as defined in claim 1, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₆, R₇, R₉, R₁₀ and R₁₂ are hydrogen atoms R₈ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 14 (Original): The compound as defined in claim 1, wherein R₁ is a hydroxyl group, R₂, R₃, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl

groups, and R₁₁ is a benzyl group.

Claim 15 (Original): The compound as defined in claim 1, wherein R₁ is a hydroxyl group, R₃ is a methoxy group, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 16 (Original): The compound as defined in claim 1, wherein R₁ is a hydroxyl group, R₃ is a methyl group, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 17 (Original): The compound as defined in claim 1, wherein R₂ and R₃ combine to form a methylene dioxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 18 (Original): The compound as defined in claim 1, wherein R₂ is a methyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇, and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 19 (Original): The compound as defined in claim 1, wherein R₂ is a methyl group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 20 (Original): The compound as defined in claim 1, wherein R₂ is a hydroxyl group, R₃ is a methyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 21 (Original): The compound as defined in claim 1, wherein R₂ is a methoxy group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₇ combine to form a tetramethylene group, R₁₁ is a benzyl group, and R₁₃ is a methyl group.

Claim 22 (Original): The compound as defined in claim 1, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₇ are methyl groups, R₁₁ is a benzyl group, and R₁₃ is an ethyl group.

Claim 23 (Original): The compound as defined in claim 1, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉ and R₁₀ are hydrogen atoms, R₆, R₇, R₁₂ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 24 (Currently Amended): The compound as defined in claim 1, wherein R₂ and R₃ ~~is-a~~ are hydroxyl group groups, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 25 (Previously Presented): The compound as defined in claim 1, wherein when R₆ and R₇ differ, the carbon atom to which R₆ is linked in said formula is in the (R), (S)

or (RS) configuration.

Claim 26 (Original): The compound as defined in claim 1, wherein when R₈ and R₉ differ, the carbon atom to which R₈ is linked is in the (R), (S) or (RS) configuration.

Claim 27 (Original): The compound as defined in claim 13, wherein when R₈ and R₉ differ the carbon atom to which R₈ is linked is in the (R), (S) or (RS) configuration.

Claim 28 (Original): The compound as defined in claim 1, wherein when R₁₀ is a substituent other than a hydrogen atom, the configuration of the carbon atom to which R₁₀ is linked in said formula (1) is in the (R), (S) or (RS) configuration.

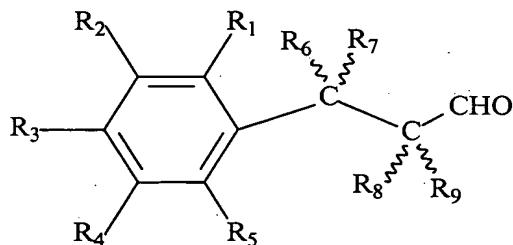
Claim 29 (Original): A composition comprising at least one compound of claim 1 and a carrier or bulking agent.

Claim 30 (Previously Presented): A method of imparting sweetness into a substance comprising adding at least one compound of claim 1 to said substance, wherein said substance is selected from the group consisting of a food item, a beverage, a soft-drink, a fruit juice, a tea, water, a confectionery, chewing gum, a hygiene product, a toiletry, a cosmetic, a pharmaceutical product and a veterinary product.

Claim 31 (Currently Amended): A method of producing ~~the a~~ compound as defined

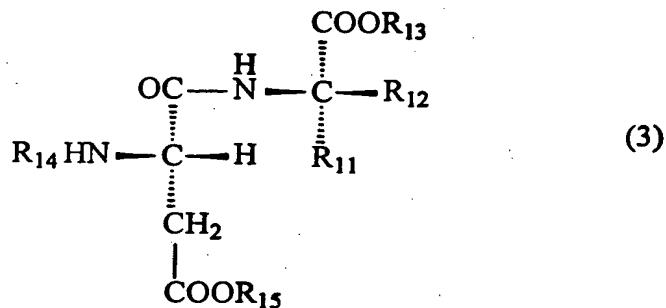
in claim 1, wherein R₁₀ is a hydrogen atom comprising:

reacting under reductive alkylation conditions an aldehyde having the formula (2):



(2)

wherein R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈ and R₉ have the same meanings as R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈ and R₉, respectively in the above formula (1), with an aspartame compound having the formula (3):

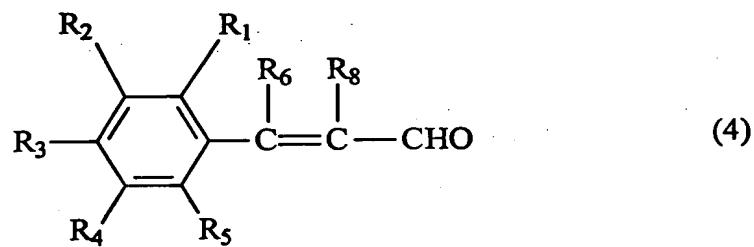


(3)

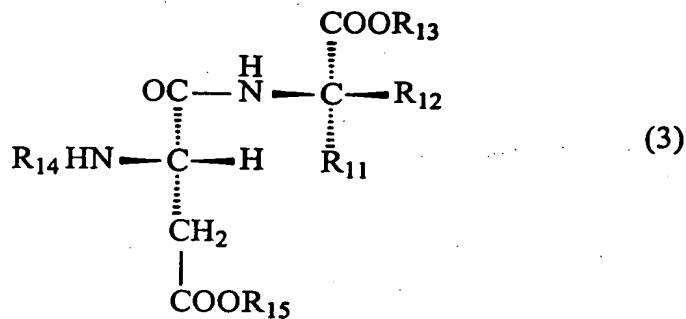
wherein R_{11} , R_{12} and R_{13} in formula (3) have the same meanings as R_{11} , R_{12} and R_{13} in formula (1), R_{14} is a hydrogen atom or a substituent which can be converted into a hydrogen atom and R_{15} is a hydrogen atom, benzyl group or a substituent which may be used to protect a carboxyl group.

Claim 32 (Original): The method as defined in claim 1, wherein R_{15} is a t-butyl group.

Claim 33 (Currently Amended): A method of producing the a compound as defined in claim 1, wherein R_7 , R_9 and R_{10} are a hydrogen atom comprising: reacting under reductive alkylation conditions an aldehyde having the formula (4):



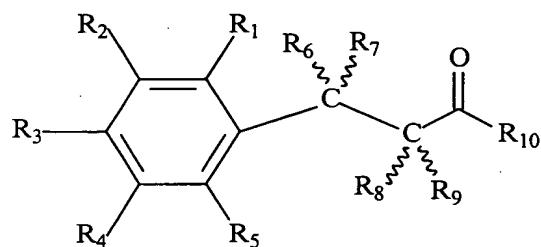
with an aspartame compound having the formula (3):



wherein R₁₁, R₁₂ and R₁₃ in formula (3) have the same meanings as R₁₁, R₁₂ and R₁₃ in formula (1), R₁₄ is a hydrogen atom or a substituent which can be converted into a hydrogen atom and R₁₅ is a hydrogen atom, benzyl group or a substituent which may be used to protect a carboxyl group.

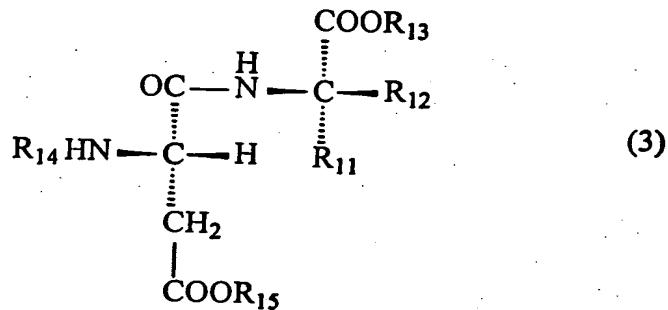
Claim 34 (Currently Amended): A method of producing the a compound as defined in claim 1, comprising:

reacting under reductive alkylation conditions an aldehyde having the formula (5):



(5)

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 and R_{10} have the same meanings as R_1 , R_2 , R_3 , R_4 , R_5 , R_6 , R_7 , R_8 , R_9 and R_{10} , respectively in formula (1);
with an aspartame compound having the formula (3):



wherein R_{11} , R_{12} and R_{13} in formula (3) have the same meanings as R_{11} , R_{12} and R_{13} in formula (1), R_{14} is a hydrogen atom or a substituent which can be converted into a hydrogen atom and R_{15} is a hydrogen atom, benzyl group or a substituent which may be used to protect a carboxyl group.

Claim 35 (Previously Presented): The composition according to Claim 29, wherein said carrier or bulking agent is one or more compounds selected from the group consisting of polydextrose, starch, maltodextrines, cellulose, methylcellulose, carboxymethylcellulose and other cellulose compounds, sodium alginate, pectins, gums, lactose, maltose, glucose, sucrose, leucine, glycerole, mannitol, sorbitol, xylitol, and erythritol.

Claim 36 (New): The method of claim 34, wherein R_3 is a methoxy group, R_1 , R_2 ,

R₃, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a benzyl group.

Claim 37 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₁, R₃, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 38 (New): The method of claim 34, wherein R₂ is a methoxy group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a benzyl group.

Claim 39 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a benzyl group.

Claim 40 (New): The method of claim 34, wherein R₂ is a methoxyl group, R₃ is a hydroxy group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a p-hydroxy benzyl group.

Claim 41 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups and R₁₁ is a cyclohexyl methyl group.

Claim 42 (New): The method of claim 34, wherein R₃ is a methoxy group, R₁, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 43 (New): The method of claim 34, wherein R₃ is a hydroxyl group, R₁, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇, and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 44 (New): The method of claim 34, wherein R₂ is a methoxy group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 45 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 46 (New): The method of claim 34, wherein R₂ is a methyl group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₇, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 47 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₃ is a

methoxy group, R₁, R₄, R₅, R₆, R₇, R₉, R₁₀ and R₁₂ are hydrogen atoms R₈ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 48 (New): The method of claim 34, wherein R₁ is a hydroxyl group, R₂, R₃, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 49 (New): The method of claim 34, wherein R₁ is a hydroxyl group, R₃ is a methoxy group, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 50 (New): The method of claim 34, wherein R₁ is a hydroxyl group, R₃ is a methyl group, R₂, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 51 (New): The method of claim 34, wherein R₂ and R₃ combine to form a methylene dioxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 52 (New): The method of claim 34, wherein R₂ is a methyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇, and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 53 (New): The method of claim 34, wherein R₂ is a methyl group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 54 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₃ is a methyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆, R₇ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 55 (New): The method of claim 34, wherein R₂ is a methoxy group, R₃ is a hydroxyl group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₇ combine to form a tetramethylene group, R₁₁ is a benzyl group, and R₁₃ is a methyl group.

Claim 56 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉, R₁₀ and R₁₂ are hydrogen atoms, R₆ and R₇ are methyl groups, R₁₁ is a benzyl group, and R₁₃ is an ethyl group.

Claim 57 (New): The method of claim 34, wherein R₂ is a hydroxyl group, R₃ is a methoxy group, R₁, R₄, R₅, R₈, R₉ and R₁₀ are hydrogen atoms, R₆, R₇, R₁₂ and R₁₃ are methyl groups, and R₁₁ is a benzyl group.

Claim 58 (New): The method of claim 34, wherein R₂ and R₃ are hydroxyl groups,

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R_1 , R_4 , R_5 , R_8 , R_9 , R_{10} and R_{12} are hydrogen atoms, R_6 , R_7 and R_{13} are methyl groups, and R_{11} is a benzyl group.

Claim 59 (New): The method of claim 34, wherein when R_6 and R_7 differ, the carbon atom to which R_6 is linked in said formula is in the (R), (S) or (RS) configuration.

Claim 60 (New): The method of claim 34, wherein when R_8 and R_9 differ, the carbon atom to which R_8 is linked is in the (R), (S) or (RS) configuration.

Claim 61 (New): The method of claim 34, wherein when R_8 and R_9 differ the carbon atom to which R_8 is linked is in the (R), (S) or (RS) configuration.

Claim 62 (New): The method of claim 34, wherein when R_{10} is a substituent other than a hydrogen atom, the configuration of the carbon atom to which R_{10} is linked in said formula (1) is in the (R), (S) or (RS) configuration.